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IF Engineer honored at IKE'2004 Conference

ROME, N.Y. — Dr. Raymond A. Liuzzi, an engineer at the Air Force Research Laboratory (AFRL) Information Directorate, was selected as an associate editor for the Proceedings of the International Conference on Knowledge Engineering held June 21-24 in Las Vegas, Nev.

Dr. Liuzzi, who also received an achievement award at the conference, organized and chaired a session titled; "Cognitive Tools and Integrated Knowledge-Based Technology" and also presented a paper. Peter LaMonica and Nathaniel Gemelli of the directorate's Information Technology Division, also presented a paper titled "Knowledge Discovery Techniques for Transforming Data into Information." @□

Intel Corporation's breakthrough device

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — Air Force in-house laboratory research, supported by Air Force Office of Scientific Research, was the foundation on which Intel Corporation built its recent, widely publicized Intel Corporation breakthrough optical modulator.

As reported in the April 2004 issue of *Physics Today*, Intel's "route to a silicon-based modulator was first proposed in the 1980s by Dr. Richard Soref of Hanscom Air Force Base [now AFRL/SNHC]."

The Intel breakthrough, published in the journal *Nature* (vol. 427, p. 615, 12 Feb 2004) and reported in mass-distribution publications (*e.g.*, *New York Times*, 12 Feb 2004), has brought silicon-based light modulation into the GHz range; before the Intel work, the speed of silicon-based light modulation had not exceeded ~20 kHz.

The Intel modulator is based on the principle that the refractive index (hence the optical path) varies as a function of the density of free electrons or holes. Dr. Soref proposed that this phenomenon be exploited for light modulation in silicon devices. @□

SN scientist reviews writes paper on integrated systems

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — Dr. Leonid Perlovsky, AFRL/SNHE, authored the Feature Article of the May 2004 issue of *IEEE Connections*, the quarterly newsletter of the 7,000 member IEEE Neural Network Society.

Dr. Perlovsky's article, "Integrating Language and Cognition," addressed a mathematical problem facing integrated sensor system designers: how to solve jointly the problems of sensor signal processing, sensor and platform management, and communication. @□

SN members recognized for NASA Achievement Team Award

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — NASA Representative Jeffrey Bauer accepted NASA's Group Achievement Award on behalf of the ACCESS 5 2003 Planning Team from NASA Administrator Sean O'Keefe in Washington, D.C. June 30.

The ACCESS 5 planning team, comprised of representatives from FAA, NASA, DoD, AeroVironment, Aurora Flight Sciences, Boeing, General Atomics, Lockheed Martin and Northrop Grumman, was assembled to address the critical issues of operating remotely operated aircraft (ROA) in national air space (NAS).

Louis Chan and Steve Umbaugh (AFRL/SNZW) and Dr. John McCalmont (AFRL/SNJT), are DoD/AF members of the ACCESS 5 planning team and were active contributors to the NASA ACCESS 5's planning team achievements.

The goals of the ACCESS 5 planning team are: To preserve the safety of the NAS; Support "File and Fly" similar to piloted aircraft; Integrate ROAs into the NAS similar to piloted aircraft; Minimize changes to the airspace rules; and Provide leadership in establishing standards for lower altitude ROA operation.

The ACCESS 5 planning team developed a $110M five year plan, funded by NASA, that has been approved and being implemented in FY04. @□